Claims

What is claimed is:

1. A method for for peer-to-peer fault detection for distributed, shared media networks, the method comprising the steps of:

having a distributed network comprising a group of nodes sharing a common communication network supporting point-to-point and broadcast messaging;

Using peer-to-peer logic fault detection in which each node finds a pair to establish a peer-to-peer checking mechanism at network power up; and

Reporting any irregular or non-received responses.

2. The method in claim 1 which includes the following steps comprising:

Using random or pseudo-random timeout generation along with broadcast messaging, the nodes are pair up until every node has an associated pair;

Assigning a node a timeout period to periodically send a status report message to its associated partner node;

Having the partner node generate and send a status report back; and

Reporting any irregular status or non-received response.

3. The method in claim 1 which includes any node having the ability to request tor reestablish of network peer-to-peer pairs

4. The method in claim 1 which includes the following steps comprising:

Having a Node send a check message to its paired Node requesting its updated status;

Having its paired Node reply with a reply check message with any abnormal status;

Resending check message if no reply check message is received;

Repeating previous step a set number of times; and

Reporting any non-received response if no reply check message is received.

5. The method in claim 1 which includes the following steps comprising:

Having a node that does not have a node pair send a status report to a paired node; and

Having the paired node report any irregular status but not send a reply check message to the node.

[c5]   6. A network device for for peer-to-peer fault detection for distributed, shared media networks comprising:

A distributed network comprising a group of nodes sharing a common communication network supporting point-to-point and broadcast messaging;

A fault detection means using peer-to-peer logic fault detection in which each node finds a pair to establish a peer-to-peer checking mechanism at network power up; and

A reporting means reporting any irregular or non-received responses.

[c6]   7. The device in claim 6 further comprising:

Having a random or pseudo-random timeout generation means along with broadcast messaging means to pair up nodes until every node has an associated pair;

Having the node is assigned a timeout period to periodically send a status report message to its associated partner node;

Having the partner node generate and send a status report back to the first node; and

Reporting an irregular status or non-received response.

[c7]   8. The device in claim 6 further comprising any node being able to request to reestablish of network peer-to-peer pairs

9. The device in claim 6 further comprising:

Having a Node send a check message to its paired Node requesting its updated status,

Having its paired Node reply with a reply check message with any abnormal status,

Resending check message if no reply check message is received;

Repeating previous step a set number of times; and

Reporting any irregular or non-received response.

[c8]   10. The device in claim 1 further comprising:

Having a node that does not have a node pair send a status report to a paired node; and

Having the paired node report any irregular status but not send a reply check message.

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